

**What is claimed is:**

1. In a steering system which includes an input shaft connected with a steering handle, an output shaft which is connected with vehicle wheels, an elastic member which connects the input shaft and output shaft to be rotatable  
5 in different directions at a certain angle, and a steering torque detector which is installed between the input shaft and the output shaft for thereby detecting a steering torque, a steering torque detector of a steering system, comprising:

left and right reflections surfaces formed in one of the input shaft and output shaft;

10 a light emitting element which is installed in a shaft corresponding to a shaft in which the reflection surface is formed; and

left and right light receiving elements which are installed in left and right sides of the light emitting element and receive light of the light emitting element in accordance with a relative rotation of the input shaft and output haft.

15 2. The detector of claim 1, wherein said left and right reflection surfaces are formed in the upper surfaces of left and right light incident grooves formed in an end portion of an input shaft flange integrally formed in the input shaft, and the light emitting element and left and right light receiving elements are installed  
20 an output shaft flange integrally formed in the output shaft in correspondence to the input shaft flange.

3. The detector of claim 2, wherein said left and right light incident grooves and left and right reflection surfaces are formed in such a manner that through  
25 hoes are formed in the input shaft flange, and a reflection plate is installed thereon.

4. The detector of claim 2, wherein a protrusion is formed in one of the output shaft flange and the input shaft flange, and a guide groove is formed in other shaft flange corresponding to the shaft in which the protrusion is formed,  
5 and the protrusion is inserted into the guide groove for thereby limiting a relative rotation angle of the input shaft.

5. The detector of claim 1, wherein said light emitting element induces a resistance which is in reverse proportion to the intensity of incident light.

10